

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

OKADA et al.

Serial No.: New Application

Group Art Unit:

Filed: May 9, 2001

Examiner:

For: IMAGE SIGNAL PROCESSING DEVICE AND IMAGE SIGNAL
PROCESSING METHOD

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

May 9, 2001

Sir:

Prior to calculation of the filing fee and prior to the examination of this application, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows. A copy of the marked-up original claims is attached showing the changes as set forth in amended 37 C.F.R. 1.121.

13. (Amended) An image signal processing method for producing luminance signals from image signals output from a solid-state image-sensing device having a plurality of types of color filters arranged one for each of pixels thereof, including:

a step of accumulating, for each of the types of color filters provided for the pixels of the solid-state image-sensing device, signal levels of image signals output from those of the pixels which are sensing a low color saturation region in which color saturation is low;

a step of setting, based on the signal levels of the image signals accumulated for each of the types of color filters provided for the pixels of the solid-state image-sensing device, correction constants with which to counterbalance amounts of light transmitted through the color filters provided for the pixels that are sensing the low color saturation region;

a step of producing corrected image signals by multiplying by the correction constants the image signals output from the pixels of the solid-state image-sensing device that are sensing the low color saturation region; and

a step of using, as luminance signals for the image signals, signals produced by adding together the corrected image signals and smoothed image signals produced by smoothing image signals obtained from one set after another of a plurality of adjacent pixels, wherein the corrected image signals and the smoothed image signals are added together with predetermined weights assigned thereto based on the color saturation values of the image signals.

REMARKS

The above amendment to the claim has been made put the application in better condition for examination. No new matter has been added.

In the event that any fees are due in connection with this paper, please charge our Deposit Account No. 01-2300.

Respectfully submitted,

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wherein the correction constants are so set as to yield identical values when multiplied by the signal levels, accumulated for each of the types of color filters, of the image signals obtained from the pixels that are sensing the low color saturation region.

12. An image signal processing method as claimed in claim 9,
wherein color saturation values of image signals are accumulated within each of a plurality of color saturation calculation regions provided within an image constituting one frame obtained by reproducing the image signals, and whether or not each color saturation calculation region is a low color saturation region in which color saturation is low is judged according to the color saturation values thus accumulated.

13. An image signal processing method for producing luminance signals from image signals output from a solid-state image-sensing device having a plurality of types of color filters arranged one for each of pixels thereof, including:

a step of accumulating, for each of the types of color filters provided for the pixels of the solid-state image-sensing device, signal levels of image signals output from those of the pixels which are sensing a low color saturation region in which color saturation is low;

a step of setting, based on the signal levels of the image signals accumulated for each of the types of color filters provided for the pixels of the solid-state image-sensing device, correction constants with which to counterbalance amounts of light transmitted through the color filters provided for the pixels that are sensing the low color saturation region;

a step of producing corrected image signals by multiplying by the correction constants the image signals output from the pixels of the solid-state image-sensing device that are sensing the low color saturation region; and

a step of using, as luminance signals for the image signals, signals produced by adding together the corrected image signals and smoothed image signals produced by smoothing image signals obtained from one set after another of a plurality of adjacent pixels, wherein the corrected image signals and the smoothed image signals are added together with predetermined weights assigned thereto, *based on the color saturation values of the image signals.*

14. An image signal processing method as claimed in claim 13, wherein the luminance signals are produced with the weights assigned in such a way that, the lower the color saturation of the image signals, the heavier the weight assigned to the corrected image signals than to the smoothed image signals.

15. An image signal processing method as claimed in claim 13, wherein the correction constants are so set as to yield identical values when multiplied by the signal levels, accumulated for each of the types of color filters, of the image signals obtained from the pixels that are sensing the low color saturation region.

16. An image signal processing method as claimed in claim 13, wherein color saturation values of image signals are accumulated within each of a plurality of color saturation calculation regions provided within an image constituting one frame obtained by reproducing the image signals, and whether or not each color saturation calculation region is a low color saturation region in which color saturation is low is judged according to the color saturation values thus accumulated.